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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/820,372 | 04/08/2004 | Hassan Asadi | 4452-639 | 7627 |

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EXAMINER

WILLIAMS, THOMAS J

ART UNIT PAPER NUMBER

3683

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/820,372

Applicant(s)

ASADI ET AL.

Examiner

Thomas J. Williams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 30, 2005 has been entered.

2. Acknowledgment is made in the receipt of the remarks filed January 12, 2005.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,454,455 to Kundmuller et al. in view of US 5,862,893 to Volpel.

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Re-claim 1, Kundmuller et al. teach a piston cylinder assembly, comprising: a cylinder 3 with a working medium, the cylinder is fitted with a piston rod guide 11 having a radially inwardly extending projection 25 extending along a portion of a periphery of an inner wall of the cylinder; a piston rod 7 and a piston 9, the piston rod is designed to tilt under high heat conditions due to impact with the inward projection, see figure 5. Kundmuller et al. teach a disk mounted adjacent the piston. However, Kundmuller et al. fail to teach the disk functioning as a stop disc and having an outer diameter greater than the piston, thereby resting against the projection before the piston contacts the projection.

Volpel teaches a piston cylinder assembly having a stop disc 142 (this element is interpreted as functionally equivalent to a stop disc since it will impact an inward projection of the cylinder preventing continued outward movement of piston rod and piston assembly), an outer diameter of the disc is greater than an adjacent piston 144. It would have been obvious to one of ordinary skill in the art to have replaced the disc provided with the piston cylinder assembly of Kundmuller et al. with a stop disc having an outer diameter greater than the adjacent piston as taught by Volpel, thus preventing the piston from impacting the inward projection, thereby eliminating potential damage to the piston during high thermal conditions.

Re-claim 2, the disc taught by Volpel is provided with non-throttling passages, 150.

Re-claim 3, the stop disc in Kundmuller et al. is a component of a piston valve.

6. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kundmuller et al. in view of Volpel as applied to claim 1 above, and further in view of US 5,810,130 to McCandless.

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Re-claims 4 and 5, Kundmuller et al. as modified by Volpel fail to teach an elastomeric tension stop positioned between the stop disk and the piston rod guide. McCandless teaches an elastomeric tension stop, or rubber bumper 37, positioned between the stop disc 39 and the rod guide. McCandless teaches that the bumper will lessen the full extension impact between the rod guide and piston assembly, see column 5 lines 59-61. It would have been obvious to one of ordinary skill in the art to have provided the assembly of Kundmuller et al. as modified by Volpel with an elastomeric tension stop as taught by McCandless, thus reducing impact force at full extension.

Response to Arguments

7. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

8. Applicant's arguments filed January 12, 2006 have been fully considered but they are not persuasive. As stated above, element 142 is interpreted as being functionally equivalent to a stop disc. This element is illustrated as having a diameter greater than the piston body 144. As such it is the opinion of the examiner that one of ordinary skill in the art would have recognized the capability of utilizing the disc of Volpel having a greater diameter than the piston in Kundmuller et al. as the stop disc. This combination would have prevented damage to the piston incurred upon impact with the inward projection during periods of excessive heating. The combined structure of Kundmuller et al. as modified by Volpel would substantially the same as figure 1 in

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the instant embodiment. Thus the arguments regarding the modification rendering Kundmuller et al. inoperative are not persuasive.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Koch and Baker (GB '945) each teach a piston and cylinder assembly having a stop disc adjacent the piston.

10. Any inquiries concerning this communication or earlier communications from the examiner should be directed to Thomas Williams whose telephone number is 571-272-7128. The examiner can normally be reached on Monday-Thursday from 6:30 AM to 4:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James McClellan, can be reached at 571-272-6786. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-6584.

**THOMAS J. WILLIAMS
PRIMARY EXAMINER**

TJW

January 18, 2006

Thomas Williams
AU 3683
1-18-06